

Remarks

Applicants respectfully request reconsideration of this application as amended. Claims 19, 25, 28, and 35 have been amended. No claims have been added or canceled. Therefore, claims 19-37 are now presented for examination.

35 U.S.C. §103 Rejection,

Anderson, Jones and Chen

The Examiner has rejected claims 19-22, 24-31 and 33-36 under 35 U.S.C. 103(a) as being unpatentable over Anderson, U.S. Patent No. 5,905,910 (“Anderson”) and Jones et al., U.S. Patent No. 5,619,723 (“Jones”) and Chen, U.S. Patent No. 5,694,581 (“Chen”).

Applicant respectfully submits that the present claims are patentable over the combination of Anderson, Jones, and Chen. Anderson discloses a disk drive interrupt process (see col. 1, lines 51-64). As stated in the Office Action of September 26, 2002, Anderson does not teach or suggest a striping controller connected between an interface and a first disk drive and a second disk drive. The Office Action relies on Jones to meet these recitations of claim 19.

Jones discloses a disk drive array (DDA) controller. The controller of Jones is connected to a system bus and IDE interfaces of disk drives (see col. 14, lines 32-33; Figure 1; Figure 4). Claim 19 recites “a striping controller coupled to said IDE interface” and “a first disk drive including first IDE electronics, said striping controller coupled to said first IDE electronics.” Support for this modification can be found in Figure 5. The

controller of Jones is coupled to a control bus and an IDE interface, not to first and second disk electronics (see Figure 4, col. 14, lines 32-33). Therefore, Applicant respectfully submits that Jones does not teach or suggest the recitations of claim 19 discussed above.

Chen discloses a disk array management system coupled to a host computer and two or more disk arrays. Applicant respectfully submits that Chen also fails to teach or suggest the recitations of claim 19 discussed above. Accordingly, Applicant submits that claim 19 is patentable over the combination of Anderson, Jones, and Chen. Claims 20-22, 24, and 29 depend directly or indirectly on claim 19 and are accordingly believed to be allowable for at least the reasons discussed above.

Claim 25 recites “transmitting an IDE request to a striping controller coupled to the IDE interface and first IDE electronics of a first disk drive.” As discussed above with reference to claim 19, none of the above references teach or suggest a striping controller coupled to an IDE interface and IDE electronics of a disk drive. Therefore, Applicant respectfully submits that claim 25 and its dependent claims 26-27 are patentable for at least the reasons discussed above.

Claim 28 recites “control logic coupled to the IDE interface and first disk electronics of a first disk drive.” Accordingly, Applicant believes that this claim and its dependent claims 30, 31, 33, and 34 are also patentable for at least the reasons discussed above.

Claim 35 recites “a striping controller coupled to the IDE interface” and “said striping controller coupled to said first IDE electronics [of a first storage device].” Claim

36 depends directly on claim 35. Applicant respectfully submits that these claims are allowable for at least the reasons discussed above.

35 U.S.C. §103 Rejection,

Anderson, Jones, Chen and Jenkins

The Examiner has rejected claims 23 and 32 under 35 U.S.C. 103(a) as being unpatentable over Anderson, Jones et al., Chen, and Jenkins, U.S. Patent No. 4,047,157 (“Jenkins”). Claim 23 depends on claim 19. Claim 32 depends on claim 28. Jenkins discloses a controller in a secondary storage facility that can transfer data from a recording medium over either of two independent buses in a data system (col. 2, lines 36-40). Jones does not teach or suggest the recitations of claim 19 and 28 discussed above. Accordingly, Applicant respectfully submits that these claims are patentable for at least the reasons discussed above.

35 U.S.C. §103 Rejection,

Anderson, Jones, Chen and Mizuno

The Examiner has rejected claim 37 under 35 U.S.C. 103(a) as being unpatentable over Anderson, Jones et al., Chen, and Mizuno et al., U.S. Patent No. 5,608,891 (“Mizuno”). Claim 37 depends on claim 35. Mizuno discloses an array type recording system that divides a single circuit into a write circuit and a read circuit (col. 4, lines 30-35). Mizuno fails to teach or suggest the recitations of claim 35 discussed above. Accordingly, Applicant respectfully submits that claim 37 is patentable for at least the reasons discussed above.

Conclusion

Applicant respectfully submits that the rejections have been overcome by the amendment and remark, and that the claims as amended are now in condition for allowance. Accordingly, Applicant respectfully requests the rejections be withdrawn and the claims as amended be allowed.

Invitation for a Telephone Interview

The Examiner is requested to call the undersigned at (303) 740-1980 if there remains any issue with allowance of the case.

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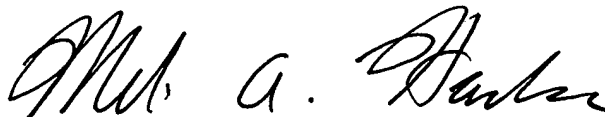
Please charge any shortage to our Deposit Account No. 02-2666.

Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP

Date:

12/19/02



Melissa A. Haapala
Reg. No. 47, 622

12400 Wilshire Boulevard
7th Floor
Los Angeles, California 90025-1026
(303) 740-1980

Version with Markings to Show Changes Made
Insertions are underlined, deletions are bracketed.

19. (Four Times Amended) A system comprising:
- a Basic Input/Output System (BIOS);
 - a system bus coupled to said BIOS;
 - an integrated drive electronics (IDE) interface coupled to said system bus that receives disk drive requests from said BIOS via said system bus;
 - a striping controller coupled to said IDE interface;
 - a first disk drive including first IDE electronics, said striping controller coupled to said first IDE electronics ~~said striping controller~~; and,
 - a second disk drive including second IDE electronics, said striping controller coupled to said second IDE electronics coupled to said striping controller, said first and said second IDE electronics ~~disk drives~~ each having data separator electronics, data formatting electronics and head positioning electronics; and
- said striping controller causes data being transmitted between said interface and said first and second drives to be written to and read from the first and second drives in an interleaved form and substantially in parallel.

25. (Twice Amended) A method comprising:

transmitting an integrated drive electronics (IDE) ~~IDE~~-request from a Basic Input/ Output System (BIOS) onto a system bus;

receiving said IDE request at an IDE interface connected to said system bus;

transmitting said IDE request to a striping controller coupled to said IDE interface and first IDE electronics of a first disk drive and second IDE electronics of a second disk drive;

writing to and reading from the ~~a~~-first disk drive and the ~~a~~-second disk drive in an interleaved form and substantially in parallel in response to said IDE request.

28. (Four Times Amended) A striping disk controller comprising:

an integrated drive electronics (IDE) interface coupled to a system bus that receives disk drive requests from a Basic Input/ Output System (BIOS) separately coupled to said system bus; and

control logic coupled to the IDE interface and first disk electronics of a first disk drive and second disk electronics of a second disk drive, the control logic to cause data being transmitted via the system bus to be written to and read from a first disk drive and a second disk drive in an interleaved form and substantially in parallel.

35. (Amended) A system comprising:

- a central processing unit (CPU) that executes an operating system including a Basic Input/Output Operating System (BIOS);
- a system bus coupled to the CPU;
- an IDE interface coupled to the system bus that ~~IDE drive~~ receives requests from a Basic Input Output System (BIOS) via the system bus;
- a striping controller coupled to the IDE interface;
- a first storage device, including first IDE electronics, said striping controller coupled to said first IDE electronics ~~the striping controller~~; and
- a second storage device, including second IDE electronics, said striping controller coupled to said second IDE electronics ~~the striping controller~~;

the striping controller, based on a standard IDE driver instruction, causes data being received to be written to and read from the first and second storage devices in an interleaved form and substantially in parallel.